



ZeroErr

eRob Rotary Actuator



Build Robot Fast

eRob Rotary Actuators

High precision harmonic reducer

High torque density

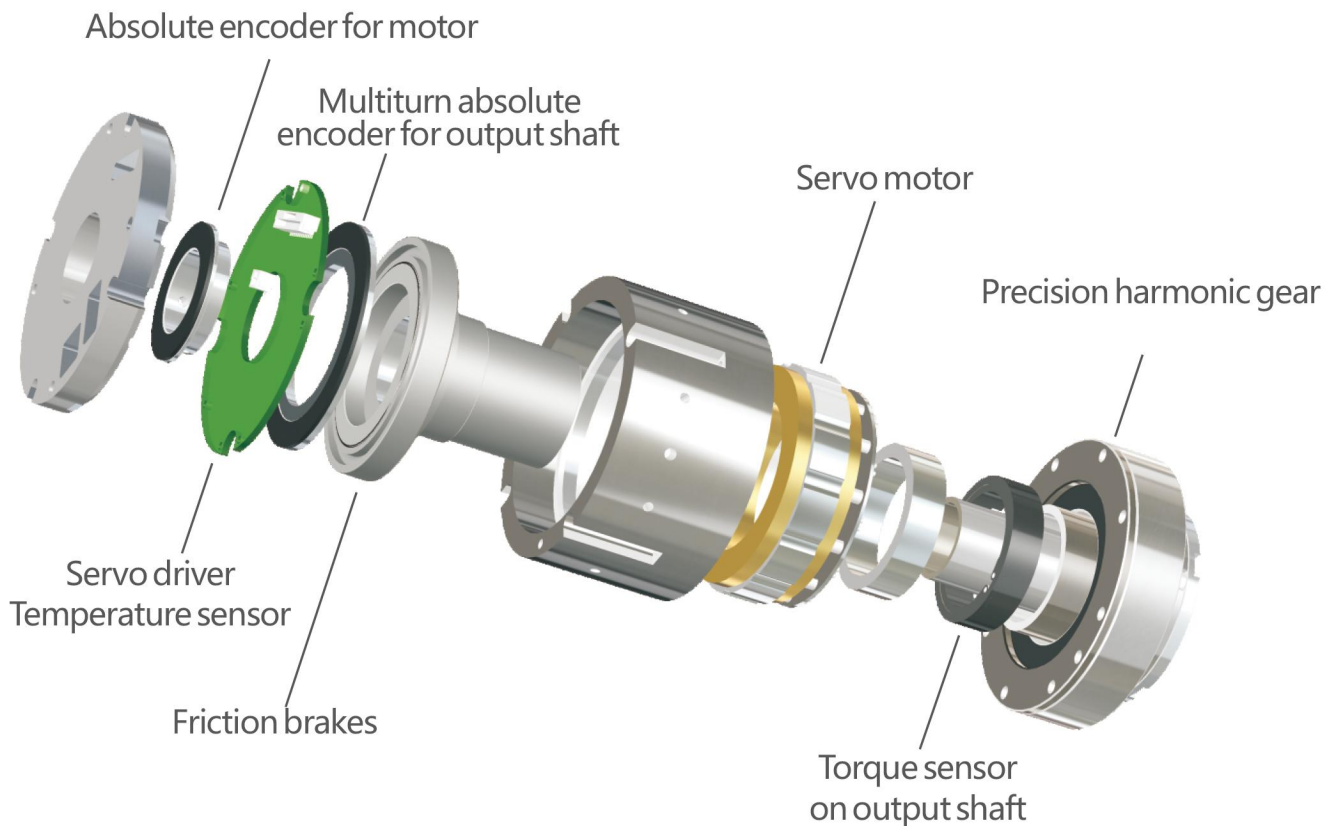
Low high

Compact structure

High-performance servo driver .

Dual absolute encoder and friction brakes integrated, make robot development easier, faster and more stable.

8 Core components



Tiny and Precise

70mm outer diameter

18mm inner diameter



Weight: 0.76~6.72 kg

Length: 67~153 mm

Torque: 21~1076 N·m

Built-in servo driver

Communication protocols

With EtherCAT, CANopen, Modbus communication protocols.

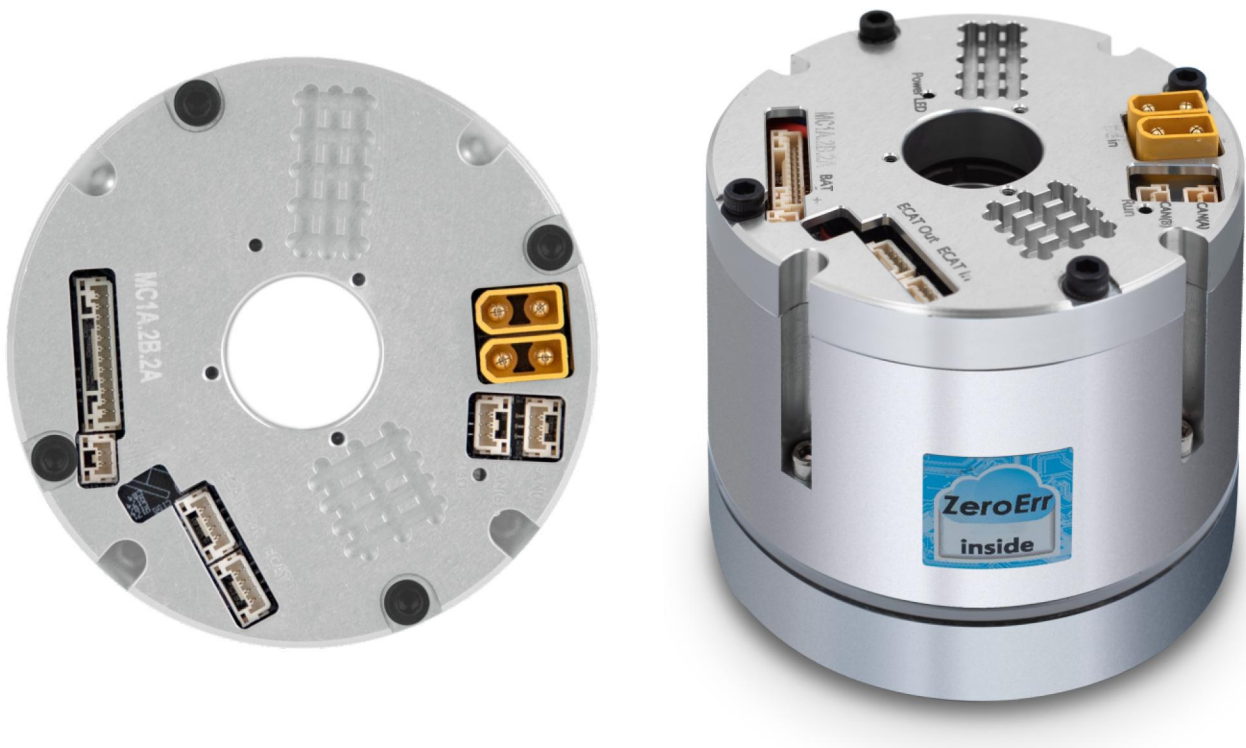
Position, Speed, Current loop PID adjustable online.

Built-in $\pm 10V$ analog input.

Pulse and direction, I/O, RS485,

External encoder and STO interface,

All in the space of $D \times L = 70 \times 67 \text{ mm}$.



Ether**CAT**®

CANopen®

Modbus

Built-in dual absolute encoder

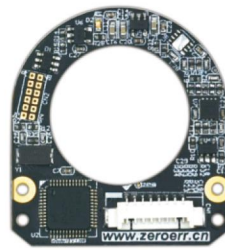
Dual loop position control

19/20-bit absolute multiturn encoder for output shaft.

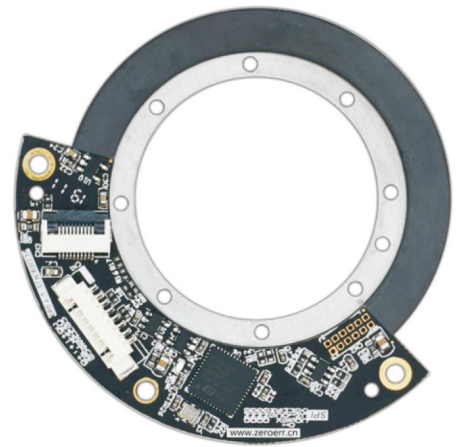
Repeatability up to ± 7 arc seconds.

Absolute accuracy up to ± 15 arc seconds.

Always have real absolute position
and multi-turn counter when power-off.



eCoder20



eCoder35

Friction brake inside

Brake smooth and stable.

No gap; No backlash.

No need to move when power-on.

No wear and tear.

Can be used as Emergency Stop.



eRob Rotary Actuators



eRob70F

OD:70mm
Length:67.7mm
Weight:0.83kg
Max.Torque:35Nm
Max.Speed:60RPM



eRob70I

OD:70mm
Length:75.3mm
Weight:0.93kg
Max.Torque:70Nm
Max.Speed:60RPM



eRob80I

OD:80mm
Length:84.2mm
Weight:1.25kg
Max.Torque:143Nm
Max.Speed:60RPM



eRob90I

OD:90mm
Length:98.9mm
Weight:2.1kg
Max.Torque:191Nm
Max.Speed:60RPM



eRob110I

OD:110mm
Length:115.2mm
Weight:3.0kg
Max.Torque:395Nm
Max.Speed:40RPM



eRob142I

OD:142mm
Length:133.9mm
Weight:6.7kg
Max.Torque:892Nm
Max.Speed:40RPM



eRob170I

OD:170mm
Length:144.9mm
Weight:9.5kg
Max.Torque:1180Nm
Max.Speed:40RPM

eRob Series Parameter Sheet

Models		eRob70F			eRob70H			eRob80H			eRob90H			eRob110H				eRob142H				eRob170H			
Harmonic gear-ratio		SHD 14-50	SHD 14-100	SHG 14-50	SHG 14-80	SHG 14-100	SHG 17-50	SHG 17-80	SHG 17-100	SHG 20-50	SHG 20-80	SHG 20-100	SHG 25-50	SHG 25-80	SHG 25-100	SHG 25-120	SHG 32-50	SHG 32-80	SHG 32-100	SHG 32-120	SHF 40-50	SHF 40-80	SHF 40-100	SHF 40-120	
Peak torque for start and stop(Nm)		12	19	23	30	36	44	56	70	73	96	107	127	178	204	217	281	395	433	459	402	519	568	617	
Rated torque(Nm)		3.7	5.4	7	10	10	21	29	31	33	44	52	51	82	87	87	99	153	178	178	137	206	265	294	
Permissible maximum momentary torque(Nm)		23	35	46	61	70	91	113	143	127	165	191	242	332	369	395	497	738	841	892	686	980	1080	1180	
Max. output rotational speed(RPM)		60	30	60	37.5	30	60	37.5	30	60	37.5	30	40	25	20	16.7	40	25	20	16.7	40	25	20	16.7	
Motor power(W)		75			100			150			300			750				1000							
Rated current(A)		1.9			2.55			4.1			6.7			18.6				26							
Max. current(A)		5.9			7.8			12.3			20.1			61				56							
Without brakes	Rotor inertia (g·mm ²)	43656			47767			67408			139057			277434				1244894				1517148			
	Outer diameter*length(mm)	70x61.4			70x75.3			80x84.2			90x98.9			110x115.2				142x133.9				170x144.9			
	Weight(KG)	0.77			0.87			1.19			1.98			2.88				6.49				9.29			
With brakes	Rotor inertia (g·mm ²)	46885			50996			70637			147025			285402				1273287				1545541			
	Outer diameter*length	70x67.7			70x75.3			80x84.2			90x98.9			110x115.2				142x133.9				170x144.9			
	Weight(KG)	0.83			0.93			1.25			2.1			3.0				6.7				9.5			
Common parameters		Supply voltage: 48V(±10%), ID: 18mm, IP grating: IP54, Brake model: friction brake																							
Optional device		Communication type: EtherCAT / CANopen/Modbus, Output encoder resolution: 19/20Bit, Repeatability/Accuracy: ±7/±15 arc seconds or ±10/±25 arc second.																							

eRob Series Model

Actuator Series	Outer Diameter	Length& Load	Gear Ratio	Model	Brakes	Encoder	Inner Diameter	Communication Protocol	Torque Sensor
eRob	70	F	100	I - B	M - 18	E	N		
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
ZeroErr Actuator Series	70 Φ70mm 80 Φ80mm 90 Φ90mm 110 Φ110mm 142 Φ142mm 170 Φ170mm	F Flat Harmonic Gear H High Torque Harmonic Gear	50 50 GearRatio 80 80 GearRatio 100 100 GearRatio 120 120 GearRatio	I I Type T T Type	F Free Motion B With Brakes	S Singletum Encoder M Multitum Encoder HS High Precision calibrated Singletum Encoder HM High Precision calibrated Multitum Encoder	18 18mm	C CANopen E EtherCAT	N No Torque Sensor T Torque Sensor

Actuator Model

eRob70F100I-BM-18EN

Note: 2D and 3D drawings available at www.zeroerr.cn.

eCoder Series

Resolution up to 21 bits

Non-contact, high performance

Multiturn absolute rotary encoder



The eCoder encoder system consists of an axially magnetised ring and a readhead. The encoders are equipped with Asynchronous serial RS485 communication interface and offer a range of binary resolutions up to 21 bits per revolution. A hollow ring, true absolute functionality and high-speed operation make this encoder suitable for many applications.

eCoder Series

High Accuracy

High Speed

Multiturn Counter



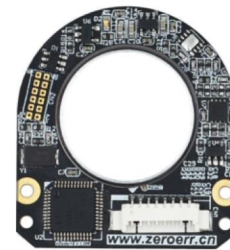
eCoder11

ID:11mm
OD:30mm
Repeatability:±15"
Max. absolute error:<0.1°
Resolution:19bit



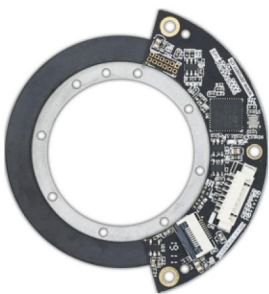
eCoder18

ID:18mm
OD:33.5mm
Repeatability:±10"
Max. absolute error:<0.06°
Resolution:19bit



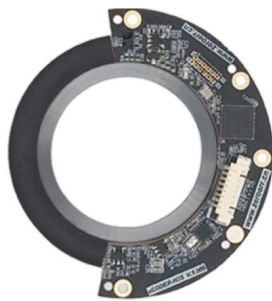
eCoder20

ID:20mm
OD:33.5mm
Repeatability:±10"
Max. absolute error:<0.06°
Resolution:19bit



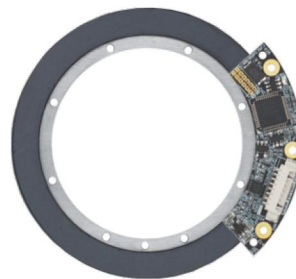
eCoder35

ID:35mm
OD:55mm
Repeatability:±5"
Max. absolute error:<0.05°
Resolution:20bit



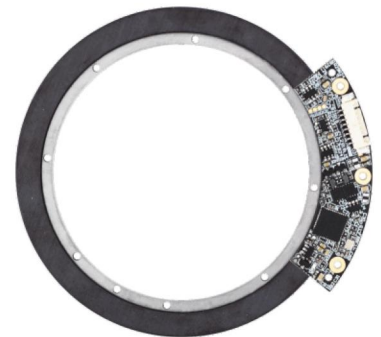
eCoder35H

ID:35mm
OD:55mm
Repeatability:±2.5"
Max. absolute error:<0.02°
Resolution:21bit



eCoder45

ID:45mm
OD:64mm
Repeatability:±5"
Max. absolute error:<0.05°
Resolution:20bit



eCoder65

ID:65mm
OD:84mm
Repeatability:±5"
Max. absolute error:<0.04°
Resolution:20bit

eCoder Series Parameter Sheet

Model	Magnetic Ring				Readhead					eCoder System				
	ID (mm)	OD (mm)	Weight (g)	Height (mm)	ID (mm)	OD (mm)	Weight (g)	Max. Height (mm)	Arc length (°)	Accuracy (°)	Repeatability (")	Temperature (°C)	Max. Speed (RPM)	Max. Resolution (bit)
eCoder11	11	30	3.9	3	11	30	3.8	6	360	<0.1	±15	(-40) - (+105)	12000	19
eCoder18	18	33.5	14.8	8.7	22	34	3.6	6	360	<0.06	±10			
eCoder20	20	33.5	9.2	6.4	22	34	3.6	6	360	<0.06	±10			
eCoder35	35	55	19	2.5	42	67	4.2	5.7	150	<0.05	±5		6000	20
eCoder35H	35	55	19	2.5	41	65	4.7	5.7	200	<0.02	±2.5			21
eCoder45	45	64	22.2	2.5	51	75	2.8	5.7	90	<0.05	±5			20
eCoder65	65	84	30	2.5	70	96	3.7	5.9	77	<0.04	±5			

eCoder Series Model

eCoder Series	eCoder Size	single/ Multi-turn	Communication Type	Resolution																														
eCoder	35	S	- R	17B																														
↓	↓	↓	↓	↓																														
ZeroErr eCoder Series	<table border="1"> <tr><td>11</td><td>ID11mm,OD30mm</td></tr> <tr><td>18</td><td>ID18mm,OD33.5mm</td></tr> <tr><td>20</td><td>ID20mm,OD33.5mm</td></tr> <tr><td>35</td><td>ID35mm,OD55mm</td></tr> <tr><td>35H</td><td>ID35mm,OD55mm</td></tr> <tr><td>45</td><td>ID45mm,OD64mm</td></tr> <tr><td>65</td><td>ID65mm,OD84mm</td></tr> </table>	11	ID11mm,OD30mm	18	ID18mm,OD33.5mm	20	ID20mm,OD33.5mm	35	ID35mm,OD55mm	35H	ID35mm,OD55mm	45	ID45mm,OD64mm	65	ID65mm,OD84mm	<table border="1"> <tr><td>S</td><td>Singleturn absolute</td></tr> <tr><td>M</td><td>Multiturn absolute</td></tr> </table>	S	Singleturn absolute	M	Multiturn absolute	<table border="1"> <tr><td>R</td><td>RS485 serial communication</td></tr> </table>	R	RS485 serial communication	<table border="1"> <tr><td>17B</td><td>17 bit resolution(all types)</td></tr> <tr><td>18B</td><td>18 bit resolution(all types)</td></tr> <tr><td>19B</td><td>19 bit resolution(all types)</td></tr> <tr><td>20B</td><td>20 bit resolution support eCoder35/45/65/35H</td></tr> <tr><td>21B</td><td>21 bit resolution only support eCoder35H</td></tr> </table>	17B	17 bit resolution(all types)	18B	18 bit resolution(all types)	19B	19 bit resolution(all types)	20B	20 bit resolution support eCoder35/45/65/35H	21B	21 bit resolution only support eCoder35H
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注: lower price  higher price

The darker the color, the higher the price.

Example The price of eCoder35S-R17B is lower than eCoder35M-R17B.

eCoder Model	eCoder35S-R17B
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About ZeroErr

ZeroErr stands for Zero Error Motion Control.

We design, develop and manufacture rotary actuators and encoders which are widely used in automation industry, collaborative robots, surgical robots and bionic robots.

More than thousands of customer groups in the global use simple combinations with our products makes wide range of applications.

ZeroErr is committed to providing reliable quality standard production, cost-effective products and quick response technical support, enabling our customers to accelerate innovation, improve productivity and achieve extraordinary application performance.



Company Website



Wechat Public Account

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